

Remarks

The Office Action has been carefully reviewed and this Response is prepared in view of the Examiner's comments in the Action. Applicant appreciates the attention of the Examiner to the application.

The drawings were objected to under 37 CFR 1.83(a) for failing to show every feature of the invention specified in the claims. The claims specifying features not shown in the drawings are herein canceled. Therefore, the 37 CFR 1.83(a) objection has been overcome.

Claims 9-11, 15, 18-20 and 24 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards the invention. Claims 18 and 19 are herein amended to avoid use of the indefinite phrases. Claims 9-11, 15 and 24 are herein canceled. Therefore, the 35 USC 112, second paragraph rejection has been overcome by amendment.

Claims 8-10, 12-15, 17-19, 21-24, 26 and 27 were rejected under 35 USC 102(b) as being anticipated by Martin (U.S. Patent No. 1,991,255). Claims 11 and 20 were rejected under 35 USC 103(a) as being unpatentable over Martin in view of Dalrymple (U.S. Patent No. 2,862,689). Claims 14 and 23 were rejected under 35 USC 103(a) as being unpatentable over Martin in view of Vafaie et al. (U.S. Patent No. 6,082,433).

Martin discloses a lifting device corresponding to the known device disclosed in the first paragraph of the Background of the Invention in Applicant's application which states:

In this known scissors lifting table, lifting rollers that extend parallel to a scissors axis are arranged on both sides of the scissors axis between the scissors arms. These lifting rollers can be moved toward one another by means of a cable arrangement in the form of a block and pulley so as to lift the carrying device of the scissors lifting table. The lifting rollers can be moved apart from one another so as to lower the carrying device. For this purpose, one end of the cable is connected to a take-up drum that is powered by means of a drive. The cable extends over several guide elements before it reaches the take-up drum.

Because the Martin device includes multiple lifting trucks (rollers 7, 8) positioned on opposite sides of the scissors axle, the use of a pulley system is required to allow for equal and symmetrical movement of the rollers toward and away from one another to raise and lower the carrier unit. Because equal and symmetrical force is needed to allow the multiple lifting truck

system to work, the Martin device cannot operate if the cable connecting the drum to either roller extended directly from the drum to the roller. Applicant's independent claims 17 and 34 and dependent claim 32 all require that the band extend directly from the drum to the lifting truck. Therefore, because Martin neither teaches nor suggests this claim requirement found in claims 17, 32 and 34, nor would be operable if modified under hindsight to utilize the claimed arrangement, Applicant believes that claims 17-23, 32 and 34-39 are allowable over Martin and the other cited prior art.

Furthermore, as discussed in Applicant's specification, the use of cables in lifting devices is known. Applicant's invention utilizes a band rather than a cable. Webster's New Collegiate Dictionary (1979) defines a band as "a thin, flat encircling strip for binding." Webster's Unabridged Dictionary (2001) defines a band as "a thin, flat strip of some material for binding, confining, trimming, protecting, etc." Winding a band on a drum achieves improved performance compared to winding a cable since the band has the advantage that it is flat and allows its windings to be wound exactly over each other. When a cable is wound, instead of lying on top of one another, its windings lie adjacent to one another on the drum until all adjacent space is filled by prior windings, then the cable winds on top of those adjacently lying prior windings and in gaps of varying thickness between such windings. As such, the amount of cable wound up by each rotation of the drum varies widely and cannot be predicted. On the other hand, a band, repeatedly winding upon itself, experiences a constant increase in the amount of band wound up by each drum rotation. Such a steady state of performance results in stability and reliability and allows for the drive mechanism to achieve a constant lifting load.

All Applicant's claims require that a band connect the lifting truck and drum. As explained above, such a band provides improved performance over the prior art cables disclosed in the cited prior art and is not disclosed by or suggested by the prior art references. Therefore, it is believed that claims 17-23, 26 and 28-39 are allowable over the cited prior art.

Regarding the 103(a) rejection of claims 11 and 20 over Martin in view of Dalrymple, it is noted that the Office Action asserts that Dalrymple discloses an "adjustable and replaceable lifting cam 65." Applicant refutes such an assertion. Dalrymple never discloses that lifting cam 65 is adjustable or replaceable. At column 3, line 8 Dalrymple states:

“A cam plate 65 (Fig. 1) is attached to each of the arms 42. Each cam plate has a downwardly facing edge 68 which is substantially an arc of a circle and is designed to insure that elevation of the platform from its lowermost position to its uppermost position may be attained by uniform pressure.”

Dalrymple further states at column 3, line 41:

“Each shaft has mounted to it a cam follower 98 and 100, adapted to engage the cams 65 and the cams 74 at all times, and has cam follower surfaces of different diameter, the former being located so as to engage the edge 68 of the cam 65 and the latter to engage the edge 76 of the cam 74.”

Such quotes are typical of the Dalrymple disclosure which lacks any teaching concerning the adjustability or replaceability of cams 65 or cams 74. Therefore, it is believed that the 103(a) rejection of claim 20 is traversed by argument and that claims 20, 28-30 and 35 are allowable over the cited prior art because no cited reference teaches that the lifting cam/stress-regulating means be adjustable and/or replaceable.

In addition, new claims 33 and 39 each require that the lifting device include “more than one band, the bands being arranged adjacent to one another, each band having first and second ends, with the first ends connected to the drum and the second ends coupled to the lifting truck.” Such a requirement is not taught or suggested by the cited prior art. In fact, no cited reference discloses the use of multiple bands connecting to a single lifting truck. Therefore, Applicant believes that claims 33 and 39 are allowable.

Finally, it is noted that claim 34 recites “the improvement consisting of one lifting truck positioned between the inner and outer arm so that the axle is between the drum and truck; a band having a first and second end, the first end connected to the drum to enable the band to be wound around the drum when the drum is rotated, and the second end coupled to the lifting truck, the band extending directly from the drum to the lifting truck.” As stated above, no cited reference disclose the use of a single lifting truck, a drum and a band extending directly from the drum to the lifting truck. Therefore, Applicant believes that claims 34-39 are allowable.

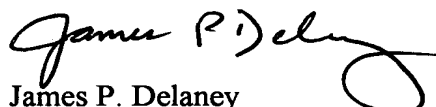
Therefore, Applicant believes that all rejections have been traversed by amendment and argument and all claims are in proper form for allowance. Early favorable action is earnestly solicited. The Examiner is invited to call the undersigned attorney if that would be helpful in facilitating resolution of any issues which might remain.

In re Patent Application Serial No. 10/031,861
Amendment dated June 24, 2003
Reply to Office Action of March 27, 2003

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It is believed that no fee is due with this response, if such a fee is required, please debit
Deposit Account 10-0270.

Respectfully submitted,


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Dated: June 24, 2003

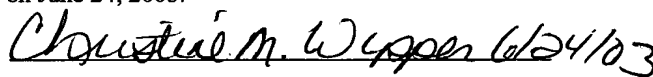
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Christine M. Wipper

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Date